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Safety

LOCKOUT/TAGOUT PROCEDURES

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This instruction implements AFD 91-3, *Occupational Safety and Health*, 27 September 1993 with references to 29 CFR 1910.147 Control of Hazardous Energy (lockout/tagout), and AFOSH Std 91-501, Air Force Consolidated Occupational Safety Standard, Chapter 21 (lockout/tagout). All references have been changed from AFOSH 91-45 (superseded) to AFOSH 91-501. It applies to all personnel assigned/attached to the 914th Airlift Wing, to all tenants; and to contractors performing maintenance on any equipment on this installation. Directives of the 107th Air Refueling Wing take precedence for New York ANG personnel, where conflict exists.

SUMMARY OF REVISIONS

This instruction establishes the minimum requirements for the lockout or tagout of energy isolating devices, as required by 29 CFR 1910.147 and AFOSH Std 91-501. It will be used to assure employees are protected from equipment accidentally operating during maintenance and servicing. It does not apply to normal production operations. Lockout/tagout procedures apply to production operations whenever guards are removed, or bypassed; other safety devices are bypassed; or any part of the body is in a danger zone for servicing and/or maintenance. A bar (|) indicates revision from the previous edition.

1. Lockouts are required when:

- 1.1. The activation of a piece of equipment exposes employees to hazards.
- 1.2. The operation of a piece of equipment may cause damage to that equipment.
- 1.3. When it is necessary to prevent unauthorized use of equipment.

2. Responsibilities. Management support and worker compliance for the lockout/tagout program are the most essential elements in this instruction. Workers, as appropriate, shall be instructed in the safety signif-

icance of the lockout (or tagout) procedures (name(s)/job titles of employees authorized to lockout, or tagout). Each affected (new or transferred) employee, and other employees whose work operations are, or may be, in the area shall be instructed in the purpose and use of the lockout, or tagout procedures (name(s)/job title(s) of affected employees and how to notify).

2.1. All commanders, functional managers, section supervisors, as well as each employee will comply with the requirements of this instruction.

2.2. Each section supervisor will ensure that all required locks, lockout hasps, and appropriate tags, as prescribed in AFOSH Std 91-501 Section 21.3.9, are available for issuing to employees, when required.

2.3. Each work center supervisor will ensure that all powered equipment, located within their section, is equipped with lockout/tagout capabilities.

3. Definitions:

3.1. Lockout – The locking of equipment in such a way that it cannot be energized without the lock being removed.

3.2. Lockout Device – Are a positive means to isolate energy and prevent the unexpected start-up of machines and equipment.

3.3. Tagout Device – A mishap prevention tag that is capable of being securely attached and that forbids the operation of an energy isolation device and identifies the applier or authority who has control of the procedure. Consult AFOSH Std 91-501, Section 21.6 for more information on securing methods.

3.4. Maintenance and Servicing – The tasks necessary to keep a machine in a state of repair, or efficiency. This includes inspection, servicing, repairing, trouble-shooting, setup, clearing machine jams, and other related activities.

3.5. Personal Hazards – A condition that could lead to injury or death.

4. Procedures:

4.1. Prior to performing any servicing, or maintenance on power production equipment, the individual performing the work must first obtain permission from the shop supervisor.

4.2. Notify all affected employees that a lockout/tagout system is going to be utilized and the reason.

4.3. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

4.4. Operate the switch, valve, or other energy isolating device(s) so the equipment is isolated from its energy source. Stored energy (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas stream, water pressure, etc.) must be dissipated, or restrained, by methods such as: repositioning, blocking, bleeding down, etc.

4.5. Equipment with lockout capabilities:

4.5.1. The lockout hasp and lock will be installed at the energy source (disconnect switch, or on/off switch) in such a way that will prevent anyone from inadvertently energizing the device being “locked out”. In addition, a tagout form will be affixed to each lock.

4.5.2. Individual(s) that perform work on a “locked out” piece of equipment will place their lock and tag on the equipment (combination locks will not be used). When this is not feasible due to large numbers of people working on the equipment, the supervisor of each section performing maintenance will be responsible for lockout procedures using a departmental lock.

4.5.3. When more than one work center is working on equipment, each individual performing work on the piece of equipment will lockout and tag the system. Individual(s) will not work under another individual’s or another work center’s lock.

4.5.4. When work center locks are used, they will be identified with the work center name and employee designation (alpha or numeric) as determined by the section supervisor controlling the lockout system in the shop using it. Logs will be maintained by each work center.

4.5.5. After locking and tagging out the switch(s), the individual performing the work will attempt to energize the equipment, before working on the equipment.

4.6. Equipment Without Lockout Capabilities. Follow guidance contained in 29 CFR 1910.147. In the interim, the following procedures will be followed:

4.6.1. Electrical breakers will be placed in the “Open” position. The breaker will be tagged and access restricted. The individual, or department performing the work, will restrict access by taping a completed tagout form over the knife switch.

4.6.2. Equipment utilizing knife switches, which do not have lockout capabilities, shall be pulled and tagged. Restrict access by taping a completed tagout form over the knife switch. This will prevent anyone from inadvertently energizing the power source.

4.7. Equipment Having a Cord and Plug Connection must comply with the following procedures: Comply with paragraphs 4.1. and 4.2. above.

4.7.1. Unplug the device from the energy source and tag the plug with tagout forms. This tag will be completed as outlined in this instruction.

4.7.1.1. The plug must remain under the exclusive control of the employee performing the maintenance or servicing.

4.7.1.2. Each person working on the piece of equipment must install his or her own lock. Individuals will not work under another individual’s lock, or a lock installed by another work center.

4.8. When Contractors Lockout and Tag Equipment, the following must be complied with:

4.8.1. The civil engineer representative assigned to the project is responsible to ensure that the contractor complies with the requirements of 29 CFR 1910.147.

4.8.2. The contractor performing the work is required to provide a lock and to properly lockout the equipment being worked on.

4.8.3. The project representative and the contractor will be responsible for removing their own locks and tags, when the work is completed.

4.8.4. After the servicing and/or maintenance is complete and ready for normal operations, check the area around the machines, or equipment, to ensure that no one is exposed.

4.8.5. After all tools have been removed from the machine or equipment, guards have been installed, and employees are in the clear, remove all lockout, or tagout devices.

5. Tagout Devices (Forms). IAW AFOSH Std 91-501 Section 21.6.1.3.3, tagout forms are AF Forms 979 and 982. These forms will contain the following information, when correctly completed:

5.1. Hazard – The reason why the piece of equipment is locked out.

5.2. Control Measures – The estimated date and time the equipment will be returned to normal service.

5.3. Back Side of Form:

5.3.1. The individual performing the maintenance will complete items one through four.

5.3.2. Items five through seven (Part II) will be completed by the responsible supervisor. Item 6 will have the date the shop supervisor was notified that the piece of equipment was out of service.

5.3.3. Tags will be secured with a self-locking and non-releasable attachment (nylon or plastic cable tie-off strap) that has a minimum unlocking strength of no less than 50 lbs. per AFOSH Std 91-501, Section 21.6.1.3.3.

5.3.4. A machine or other equipment using a simple wall plug as the power source will be unplugged, tagged with an AF Form 982 and controlled by the supervisor or operator IAW AFOSH Std 91-501, Section 21.6.1.2.

6. Training:

6.1. Training shall be provided to ensure the purpose and function of the lockout and tagout programs are understood by supervisors, operators and qualified equipment maintenance personnel. It is essential that the knowledge and skills required for safe usage of lockout and tagout procedures in AFOSH Std 91-501, section 21.6.3 are understood. Training shall include the following IAW AFOSH Std. 91-501, Section 21.6.2.1.

6.1.1. Each supervisor, operator, or any qualified equipment maintenance person shall receive initial job training on the type and magnitude of applicable energy sources, the methods and means necessary for energy isolation and control, and the use of lockout procedures.

6.1.2. All other personnel whose duties are, or may be, in an area where lockout and tagout procedures may be utilized, shall be briefed on the program during the initial job safety briefing.

6.1.3. When lockout and tagout procedures are used, supervisors, operators or any qualified equipment maintenance personnel shall also receive initial job training on locks and tags as follows:

6.1.3.1. Tags are essentially warning devices, attached to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.

6.1.3.2. All training shall be certified, documented and kept up-to-date. The certification shall include each individual's name and dates of training and it will be documented on AF Form 55, Employee Safety and Health Record or by using a computerized information management system.

7. Inspections. Inspections will be done IAW AFOSH Std 91-501, Section 21.6.3.

7.1. An inspection of the lockout and tagout programs shall be conducted a minimum of once annually by a qualified ground safety inspector. The inspection will be done as part of the Program Evaluation and include, as a minimum, the program's procedures, training, and self-inspection requirements.

7.2. Periodic self-inspection shall be conducted by system users and include, as a minimum, the following:

7.2.1. Identification of the machines and equipment on which the lockout and tagout program is used.

7.2.2. A review of each person's responsibilities under the program.

7.2.3. Confirm that all required training has been completed and documented.

7.2.4. Document the date of the inspection and the inspector's name.

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